CLAIMS

What is claimed is:

1. A method for determining a preference policy for a market, said method comprising the steps of:

      selecting characteristics of said market;

      selecting a relevant bidding model;

      estimating a structure of said market;

      predicting a bidding behavior;

      predicting a first outcome of said market; and

      evaluating said first outcome of said market.

2. The method as recited in Claim 1, wherein said selecting characteristics step further comprises the steps of:

      receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;

      accessing a database;

      retrieving from said database historical bids data;

      retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;

      outputting said bids data; and

      outputting said auction characteristics data.

3. The method as recited in Claim 1, wherein said selecting a relevant bidding model step further comprises the steps of:

      receiving said auction characteristics data;

      accessing a database;

retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and

outputting said relevant bidding model.

4.   The method as recited in Claim 1, wherein said estimating step further comprises the steps of:

receiving said relevant bidding model;

receiving said bids data;

expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;

transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;

estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and

outputting said estimated structure.

5.   The method as recited in Claim 1, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior step further comprises the steps of:

receiving said estimated structure;

receiving said relevant bidding model;

substituting said estimated structure for said unknown structure; and

outputting a prediction of bidding behavior.

6.   The method as recited in Claim 1, wherein said predicting a first outcome step further comprises the steps of:

HP-10014418/JPH/LRG

receiving a second user input, wherein said second user input comprises:

an evaluation criterion;

a candidate preference policy; and

a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate preference policy, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate preference policy, and said constraint, said value comprising said first predicted outcome; and

outputting said value.

7.   The method as recited in Claim 1, wherein said evaluating said first outcome step further comprises the steps of:

receiving a third user input, wherein said third user input comprises a plurality of candidate preference policies;

receiving a predicted outcome for each said candidate preference policy;

calculating descriptive statistics for each said candidate preference policy, wherein said descriptive statistics comprise a mean and a variance;

ranking each said candidate preference policy with respect to said calculated mean and generating corresponding rankings for said plurality; and

outputting said descriptive statistics and said rankings.

8.   The method as recited in Claim 7, further comprising the steps of:

HP-10014418/JPH/LRG

selecting a best preference policy, wherein said best preference policy comprises the candidate preference policy within said plurality having the highest said ranking; and

outputting said best preference policy.

5

9.   A computer system comprising:

a bus;

a memory interconnected with said bus; and

a processor interconnected with said bus, wherein said processor executes

10 a method for determining a preference policy for a market, said method comprising the steps of:

selecting characteristics of said market;

selecting a relevant bidding model;

estimating a structure of said market;

15 predicting a bidding behavior;

predicting a first outcome of said market; and

evaluating said first outcome of said market.

10.   The system as recited in Claim 9, wherein said selecting characteristics

20 step of said method further comprises the steps of:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;

accessing a database;

retrieving from said database historical bids data;

25 retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;

outputting said bids data; and

outputting said auction characteristics data.

HP-10014418/JPH/LRG

11.   The system as recited in Claim 9, wherein said selecting a relevant bidding model step of said method further comprises the steps of:

receiving said auction characteristics data;

accessing a database;

retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and

outputting said relevant bidding model.

12.   The system as recited in Claim 9, wherein said estimating step of said method further comprises the steps of:

receiving said relevant bidding model;

receiving said bids data;

expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;

transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;

estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and

outputting said estimated structure.

13.   The system as recited in Claim 9, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior step of said method further comprises the steps of:

receiving said estimated structure;

receiving said relevant bidding model;

substituting said estimated structure for said unknown structure; and

outputting a prediction of bidding behavior.

14.   The system as recited in Claim 9, wherein said predicting a first outcome step of said method further comprises the steps of:

receiving a second user input, wherein said second user input comprises:

an evaluation criterion;

a candidate preference policy; and

a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate preference policy, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate preference policy, and said constraint, said value comprising said first predicted outcome; and

outputting said value.

15.   The system as recited in Claim 9, wherein said evaluating said first outcome step of said method further comprises the steps of:

receiving a third user input, wherein said third user input comprises a plurality of candidate preference policies;

receiving a predicted outcome for each said candidate preference policy;

calculating descriptive statistics for each said candidate preference policy, wherein said descriptive statistics comprise a mean and a variance;

ranking each said candidate preference policy with respect to said calculated mean and generating corresponding rankings for said plurality; and

outputting said descriptive statistics and said rankings.

16. The system as recited in Claim 9, wherein said evaluating said first outcome step of said method further comprises the steps of:

selecting a best preference policy, wherein said best preference policy comprises the candidate preference policy within said plurality having the highest said ranking; and

outputting said best preference policy.

17. A computer readable medium for causing a computer system to execute the steps in a method for determining a preference policy for a market, said method comprising the steps of:

selecting characteristics of said market;

selecting a relevant bidding model;

estimating a structure of said market;

predicting a bidding behavior;

predicting a first outcome of said market; and

evaluating said first outcome of said market.

18. The computer readable medium as recited in Claim 17, wherein said selecting characteristics step of said method further comprises the steps of:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;

accessing a database;

retrieving from said database historical bids data;

retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;

outputting said bids data; and

outputting said auction characteristics data.

19.   The computer readable medium as recited in Claim 17, wherein said selecting a relevant bidding model step of said method further comprises the steps of:

receiving said auction characteristics data;

accessing a database;

retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and

outputting said relevant bidding model.

20.   The computer readable medium as recited in Claim 17, wherein said estimating step of said method further comprises the steps of:

receiving said relevant bidding model;

receiving said bids data;

expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;

transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;

estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and

outputting said estimated structure.

21. The computer readable medium as recited in Claim 17, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior step of said method further comprises the steps of:

receiving said estimated structure;

receiving said relevant bidding model;

substituting said estimated structure for said unknown structure; and

outputting a prediction of bidding behavior.

22. The computer readable medium as recited in Claim 17, wherein said predicting a first outcome step of said method further comprises the steps of:

receiving a second user input, wherein said second user input comprises:

an evaluation criterion;

a candidate preference policy; and

a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate preference policy, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate preference policy, and said constraint, said value comprising said first predicted outcome; and

outputting said value.

23. The computer readable medium as recited in Claim 17, wherein said evaluating said first outcome step of said method further comprises the steps of:

receiving a third user input, wherein said third user input comprises a plurality of candidate preference policies;

receiving a predicted outcome for each said candidate preference policy;

calculating descriptive statistics for each said candidate preference policy, wherein said descriptive statistics comprise a mean and a variance;

ranking each said candidate preference policy with respect to said calculated mean and generating corresponding rankings for said plurality; and

outputting said descriptive statistics and said rankings.

24.   The computer readable medium as recited in Claim 17, wherein said evaluating said first outcome step of said method further comprises the steps of:

selecting a best preference policy, wherein said best preference policy comprises the candidate preference policy within said plurality having the highest said ranking; and

outputting said best preference policy.